

1-20161/A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Bernhard Müller

Serial No. 08/541,009

Group Art Unit: 1105

Filed October 11, 1995

For FIBRE-REACTIVE ANTHRAQUINONE DYES,

Examiner: M. Einsmann

PROCESS FOR THEIR PREPARATION

AND THE USE THEREOF

DECLARATION

I, Bernhard Müller, chemist, Doctor of Natural Science (Chemistry) from the University of Heidelberg, West Germany, a citizen of West Germany, residing at Efringen-Kirchen, West Germany, hereby declare:

That I have been employed by Ciba-Geigy as a research chemist in the Textiles Dyestuff Department since 1990;

That I have been engaged in the preparation of dyestuffs for Ciba-Geigy since 1990.

That based on the above education and experience, I consider myself an expert in the field of dyestuffs.

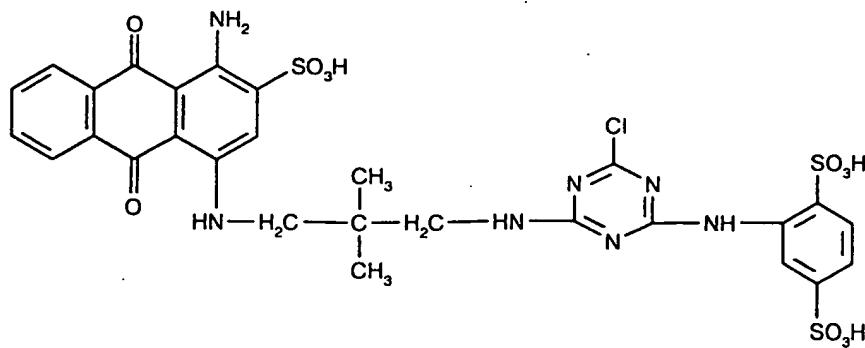
I, Bernhard Müller, declare that the preparation of dyes mentioned below and the following printings and tests were carried out under my direction and supervision.

That I am submitting herewith the following exact report of the preparation and investigation of the dyes mentioned below.

1.) Preparation of Dyestuffs

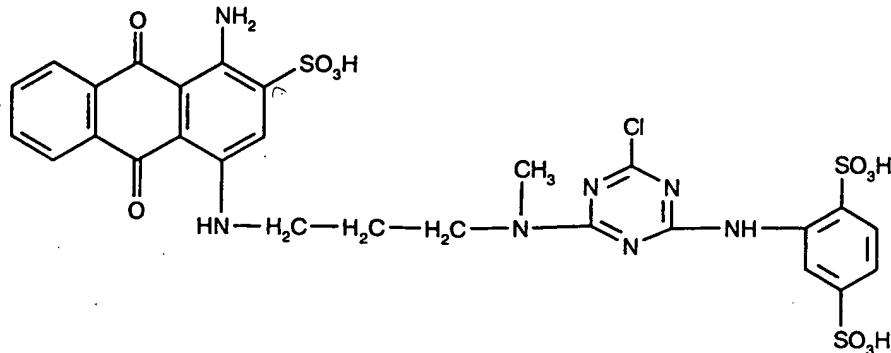
The following dyes were prepared:

Dyestuff A, the dye of formula



according to the application, supra, obtained in accordance with the instructions given in Example 78 of GB-A-2,034,731.

Dyestuff X, the dye of formula



according to GB-A-2,034,731, obtained in accordance with the instructions given in Example 78 of GB-A-2,034,731.

I, Bernhard Müller, declare that the above prepared Dyestuffs A and X exhibited the same relative purity.

2.) Printing of mercerized cotton

5, 15, 30, 45, 60 or 80 g of Dyestuff A (or the same amounts of Dyestuff X, respectively) were sprinkled into 500 g of a stock thickener comprising 6 % sodium alginate thickener, 20 g sodium bicarbonate, 10 g sodium m-nitro-benzenesulfonate and 3 g of a defoamer and then the printing paste in each case was adjusted by addition of water to a weight of 1000 g. Thus, for each of Dyestuffs A and X six printing pastes were prepared.

A mercerized cotton fabric was printed with the printing pastes thus obtained and dried and the resulting printed material was steamed in saturated steam at 102 °C for 4 minutes. The printed fabric was then rinsed and dried in an usual manner.

3.) Build-up capacity

The tinctorial strength of the printings obtained according to 2.) with 5, 15, 30, 45, 60 and 80 g of Dyestuffs A and X were measured photospectrometrically. The results are shown in Table 1 below wherein the tinctorial strength of the printings is given in units of the standard depth according to ISO 105/A-1984(E), page 4.

Table 1 (standard depth)

| Amount of dyestuff in g | Dyestuff A standard depth | Dyestuff X standard depth |
|----------------------------|------------------------------|------------------------------|
| 5 | 0.06 | 0.03 |
| 15 | 0.17 | 0.10 |
| 30 | 0.34 | 0.17 |
| 45 | 0.49 | 0.21 |
| 60 | 0.62 | 0.23 |
| 80 | 0.75 | 0.22 |

The above Table 1 shows that the inventive Dyestuff A produces strong printings in each case amounting to a maximum standard depth of about 0.75/1. In strong contradistinction thereto, the prior art Dyestuff X builds up only poorly and yields a maximum standard depth of about 0.23/1 only.

Evidently, Dyestuff A, according to the application, supra, has a much better affinity to mercerized cotton material in the printing process than prior art Dyestuff X.

I, Bernhard Müller, further declare:

That the extent of improvement attainable with Dyestuff A when compared with Dyestuff X is very surprising to me and I never would have predicted such considerable differences in the properties as shown in the Declaration especially if one concedes the structural similarity of the compounds having been tested;

That the advantages achieved with Dyestuff A are very significant ones which are of considerable practical and commercial importance. Thus it is a requirement for a dyestuff for printing cotton that it builds-up well and is suitable to print cotton in deep shades.

I, Bernhard Müller, declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 Title 18 of the United States Code and that such wilful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed this 22nd day of August 1996

Bernhard Müller

Bernhard Müller